



Armed Forces College of Medicine AFCM



Submandibular & Sublingual Salivary Glands

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Lecturer of Anatomy

INTENDED LEARNING OBJECTIVES (ILO)



• **By the end of this lecture the student will be able to:**

1. Describe the shape, position, surfaces, relations of submandibular salivary gland
2. Describe course and site of opening of submandibular duct
3. Discuss nerve and blood supply of the submandibular gland
4. Describe position , relations , ducts , nerve and blood supply of sublingual salivary gland

Key Points

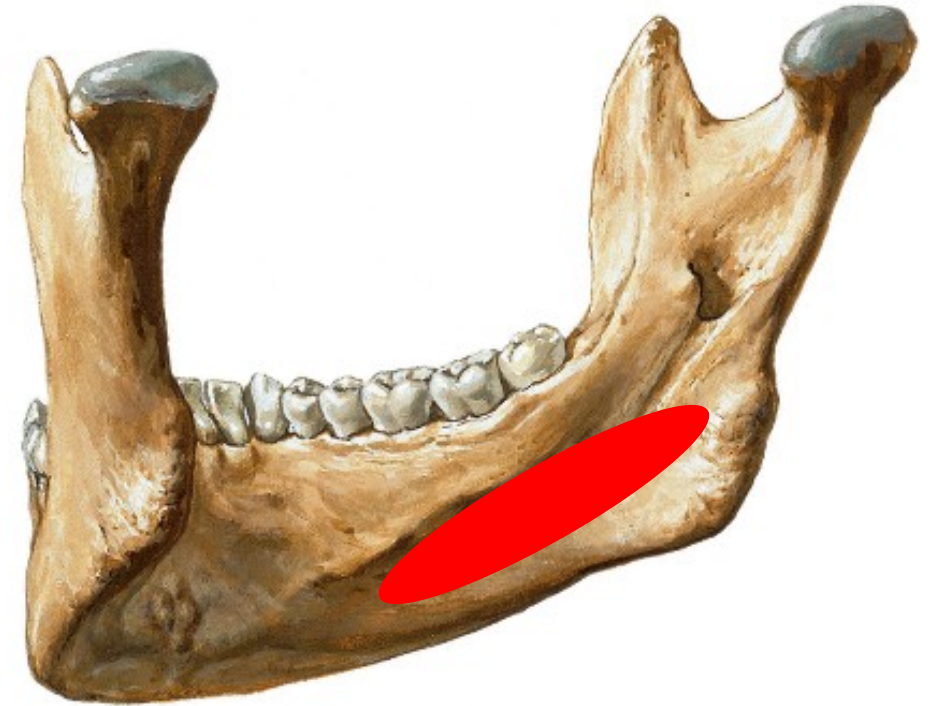


- 1. Anatomical features of submandibular gland**
- 2. Anatomical features of sublingual gland**

Submandibular Gland



- **Position:**
Lodged in the submandibular fossa of the mandible



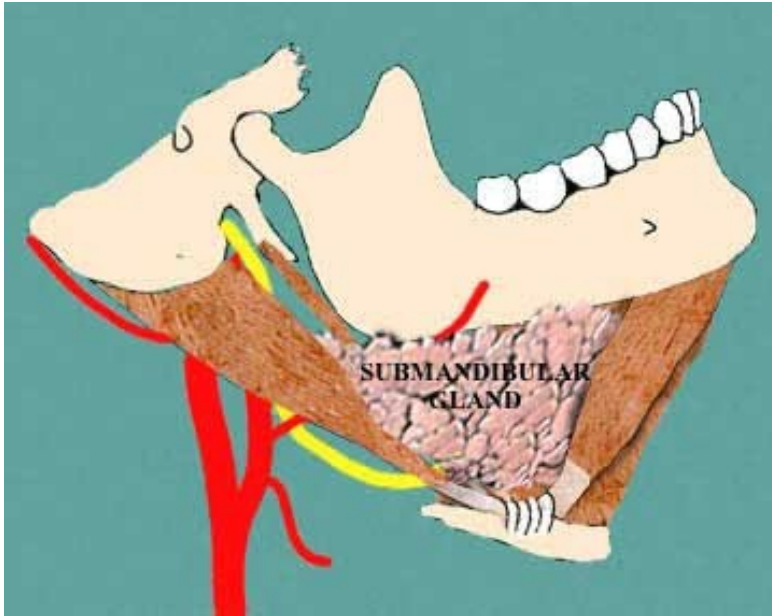
Atlas of human anatomy by Frank H. Netter, 6th Edition

- **Shape:** wedge shaped.
- **Size:** is about the size of a walnut.

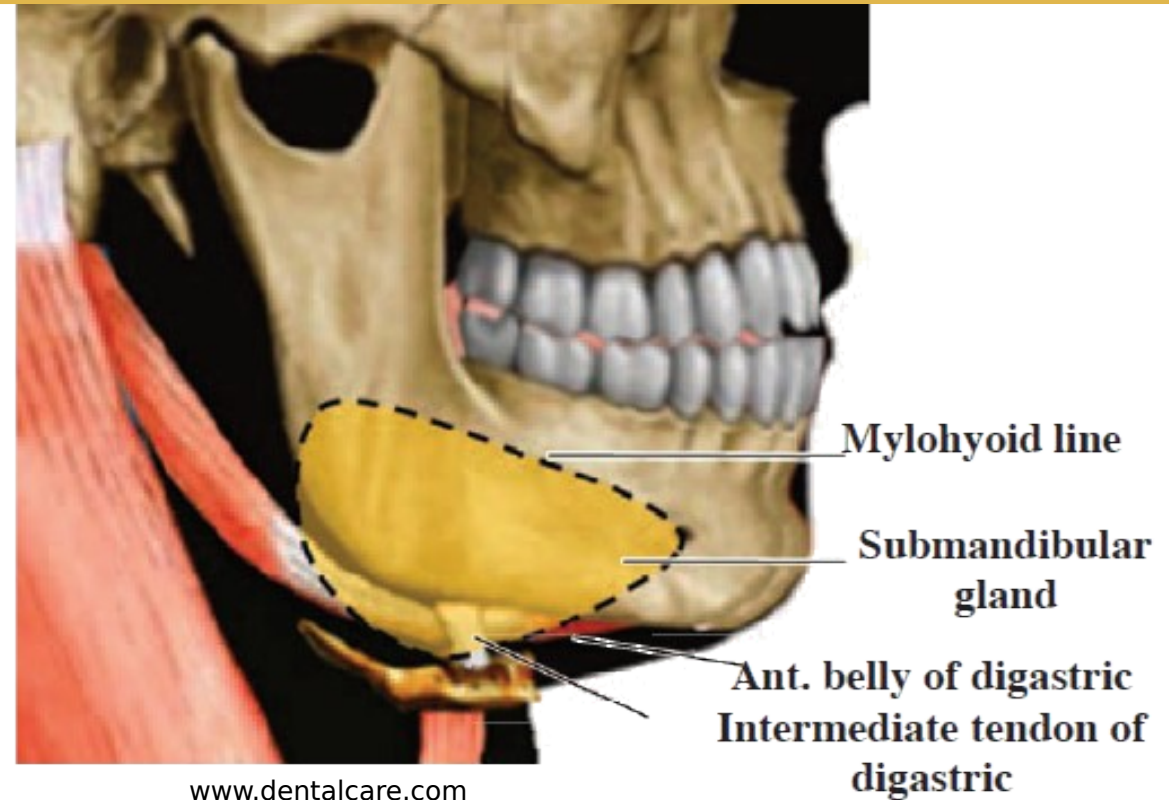
Submandibular Gland



• **Extent**



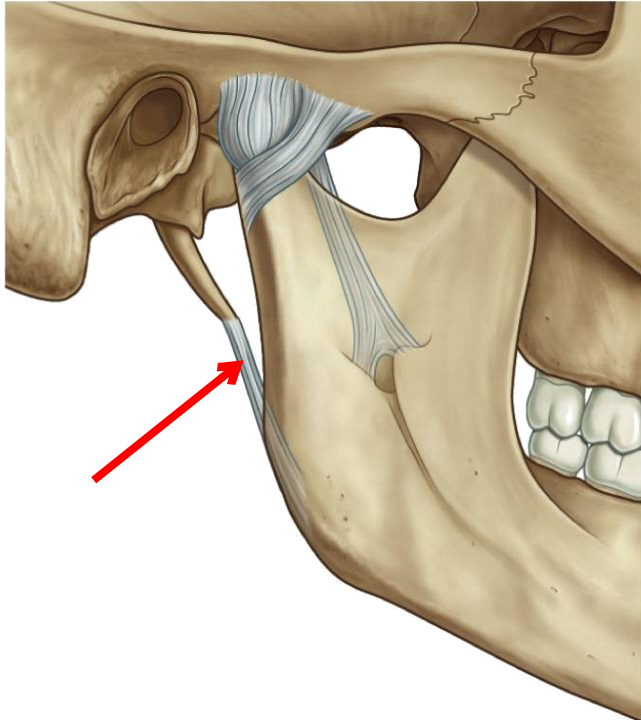
www.wesnorman.com



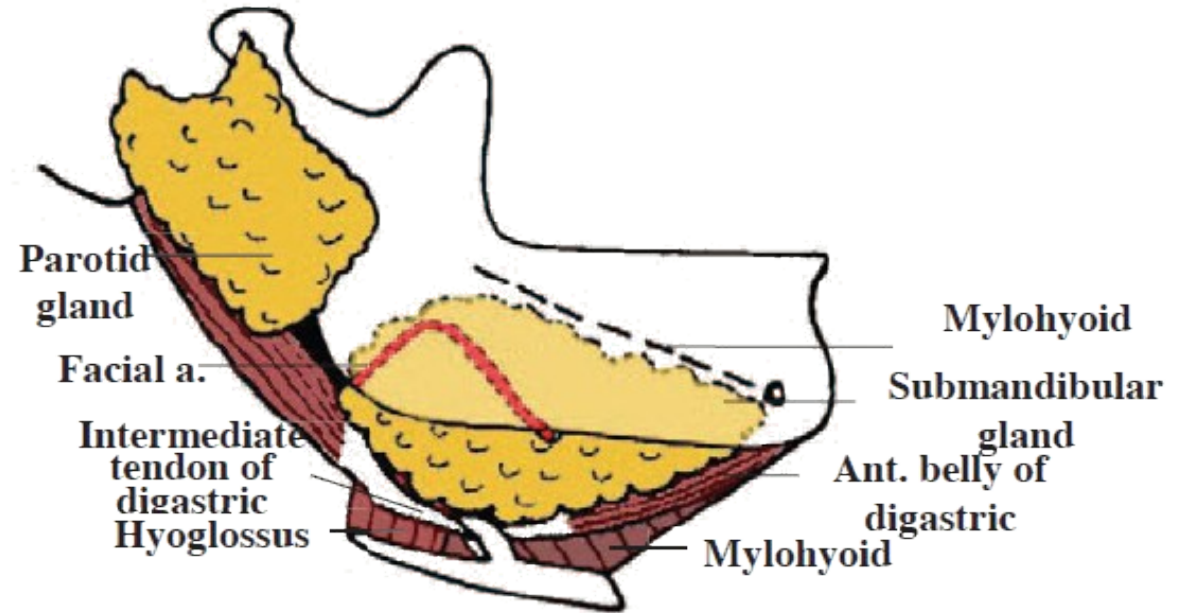
www.dentalcare.com

- 1. Superiorly:** up to mylohyoid line.
- 2. Inferiorly:** overlaps intermediate tendon of the digastric.
- 3. Anteriorly:** reaches anterior belly of digastric.

Submandibular Gland



Atlas of human anatomy by Frank H. Netter, 6th Edition



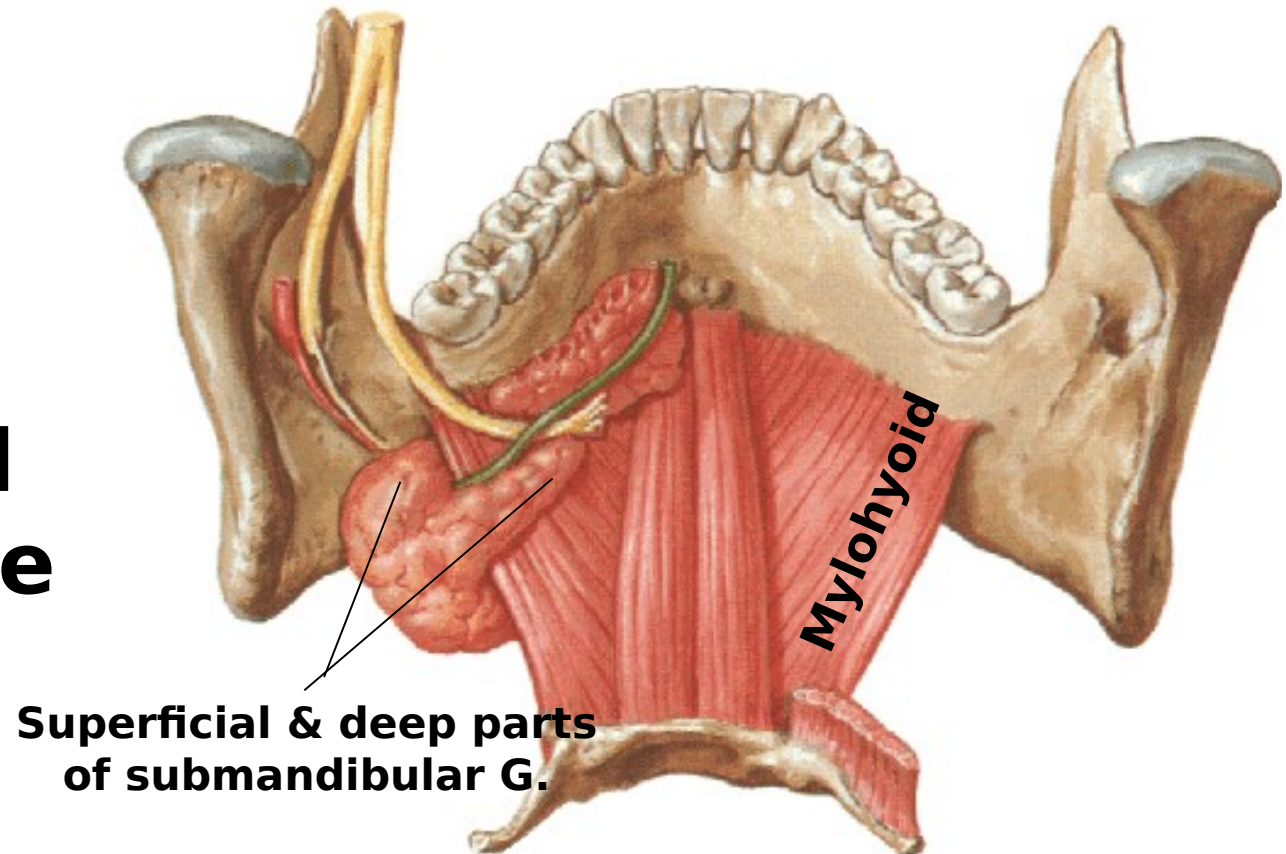
4. Posteriorly: reaches **Stylomandibular ligament** which separates it from the parotid gland.

Submandibular Gland



Parts:

Formed of a large superficial part and small deep part (the 2 parts are continuous at the posterior border of mylohyoid)



Atlas of human anatomy by Frank H. Netter, 6th Edition

Submandibular Gland



Atlas of human anatomy by Frank H. Netter, 6th Edition

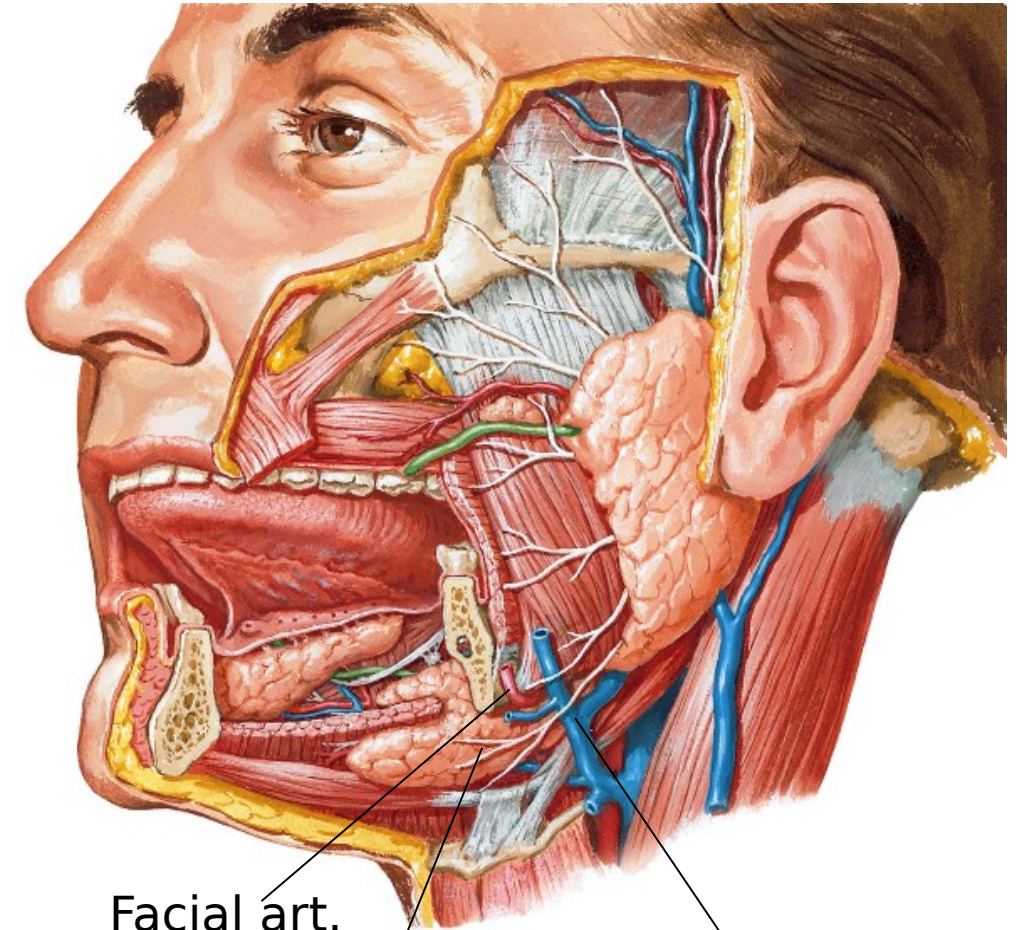
1) Superficial part:

Has 3 surfaces:

a. Lateral surface:

b. Inferior (superficial) surface:

c. Medial surface



Facial art.

cervical branch of facial n

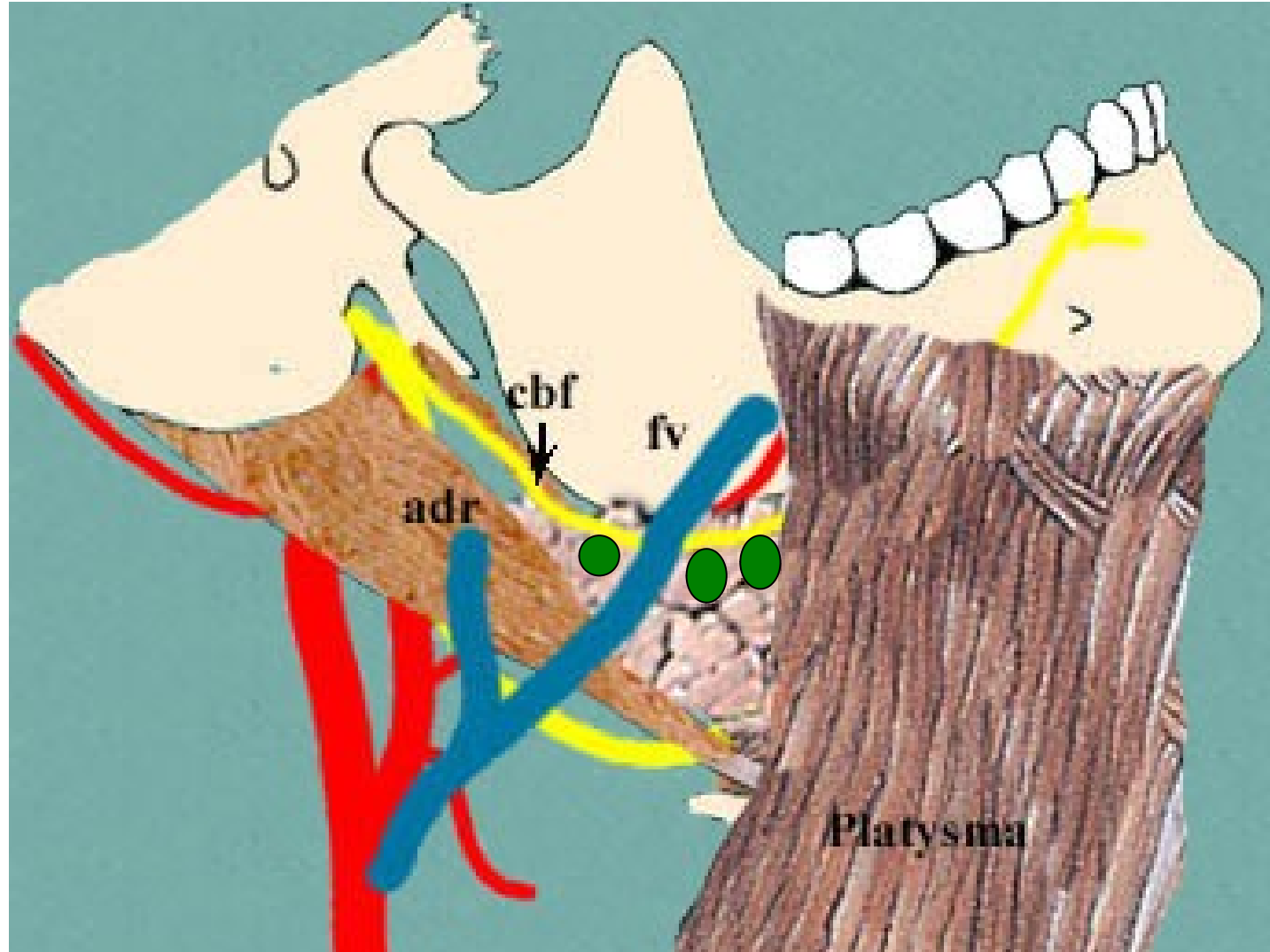
Facial vein

Submandibular Gland



Relations of the Superficial surface

- Skin, superficial fascia, deep fascia.
- Submandibular L.N.
- Crossed by facial vein and cervical branch of facial nerve.

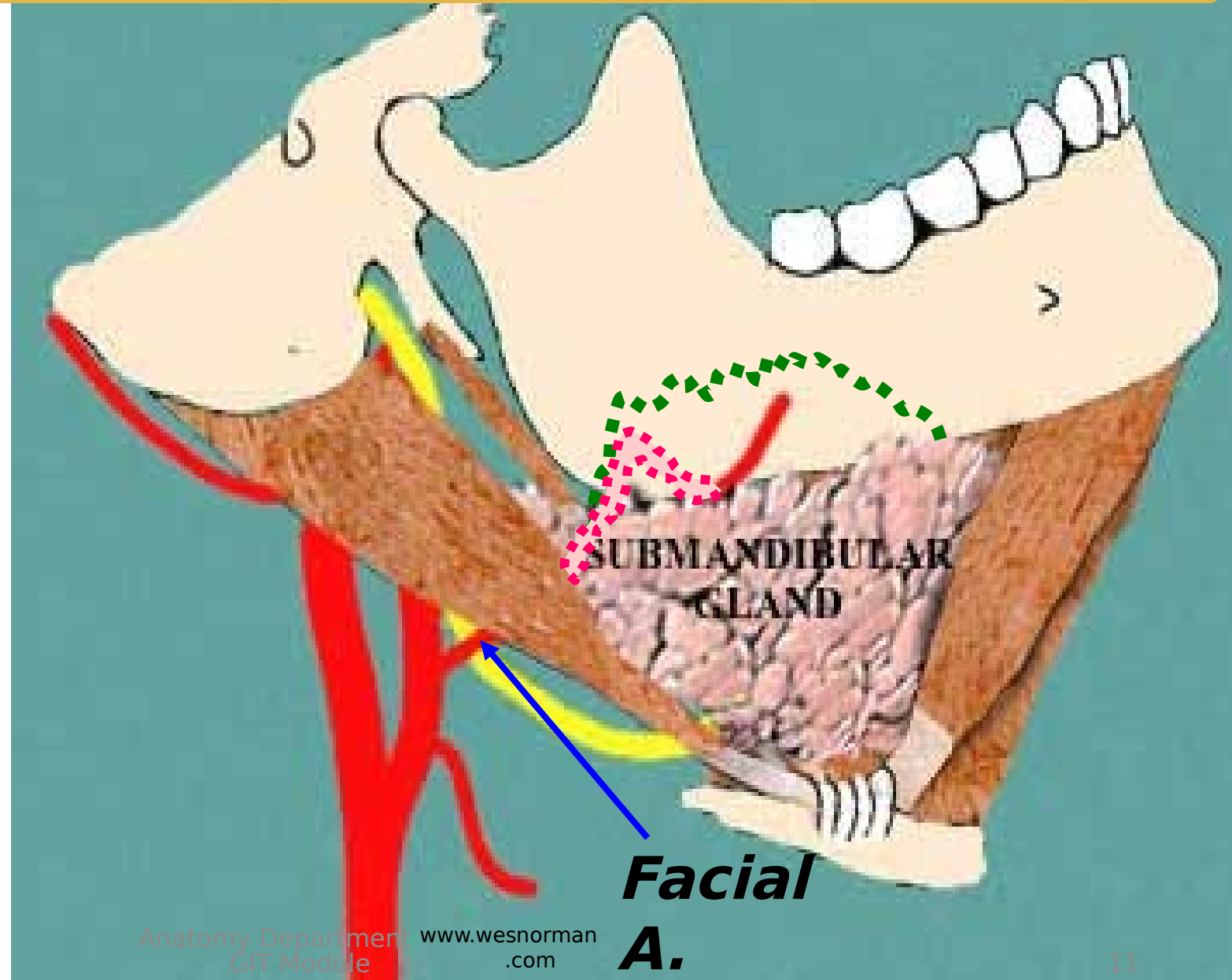


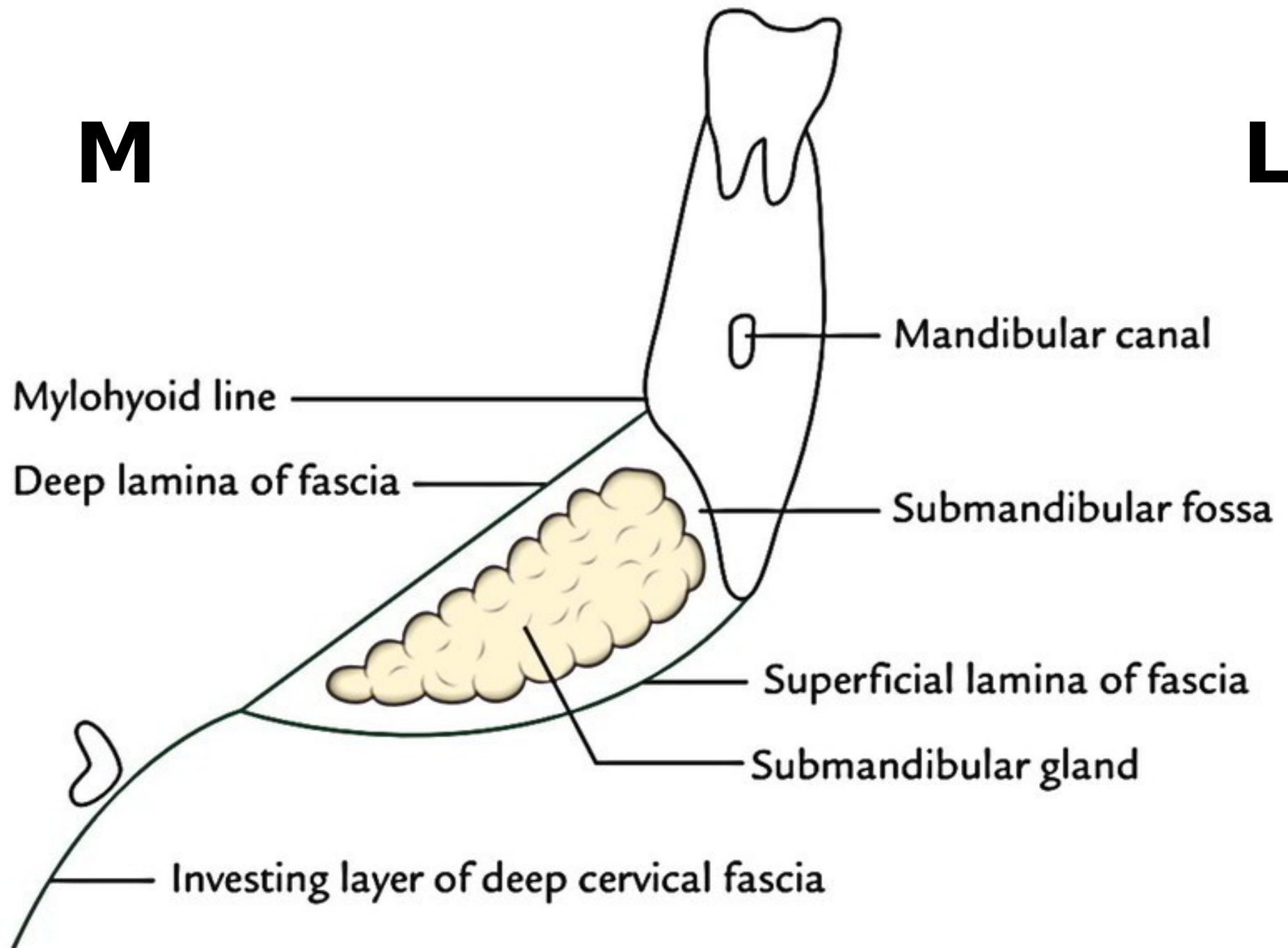
Submandibular Gland



Relations to the Lateral Surface

- **Submandibular fossa of mandible.**
- **Facial artery lies between the gland and the bone.**





Submandibular Gland

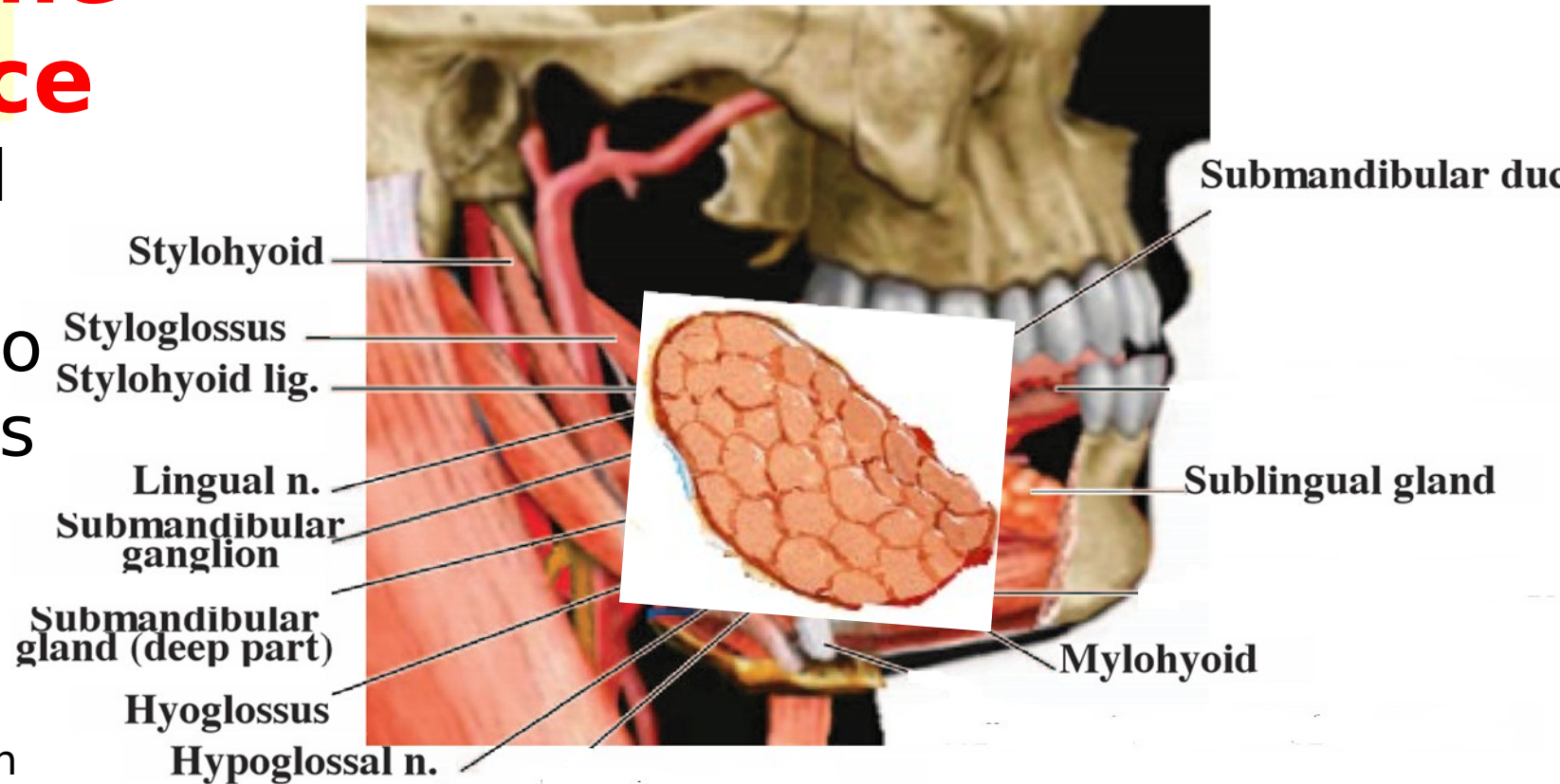


Relations to the Medial Surface

Anterior part: related to mylohyoid

Middle part: related to hyoglossus & structures lying on it

Posterior part: rests on wall of pharynx separated from it by 9th cranial n., styloglossus m., stylohyoid ligament.

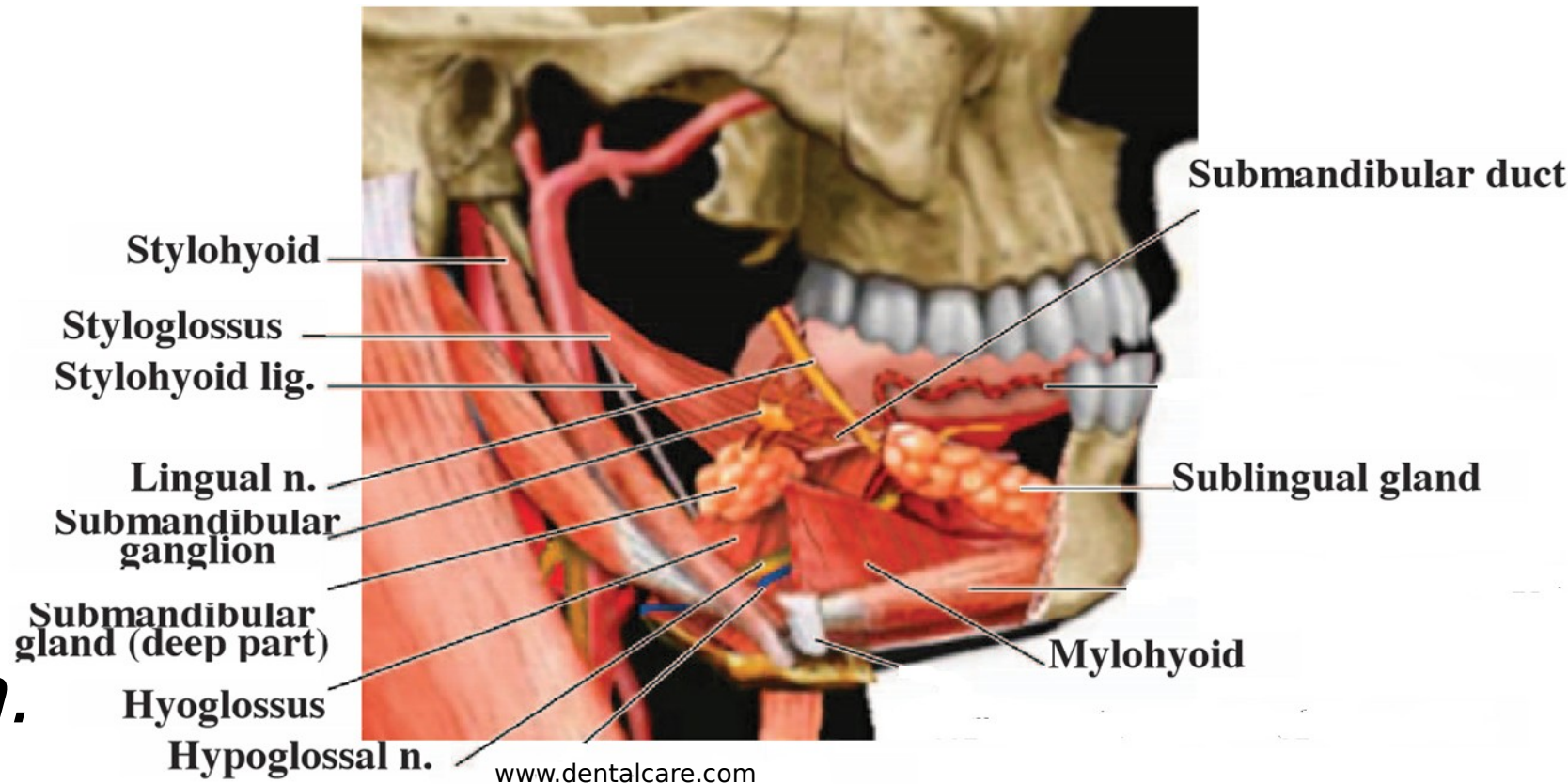


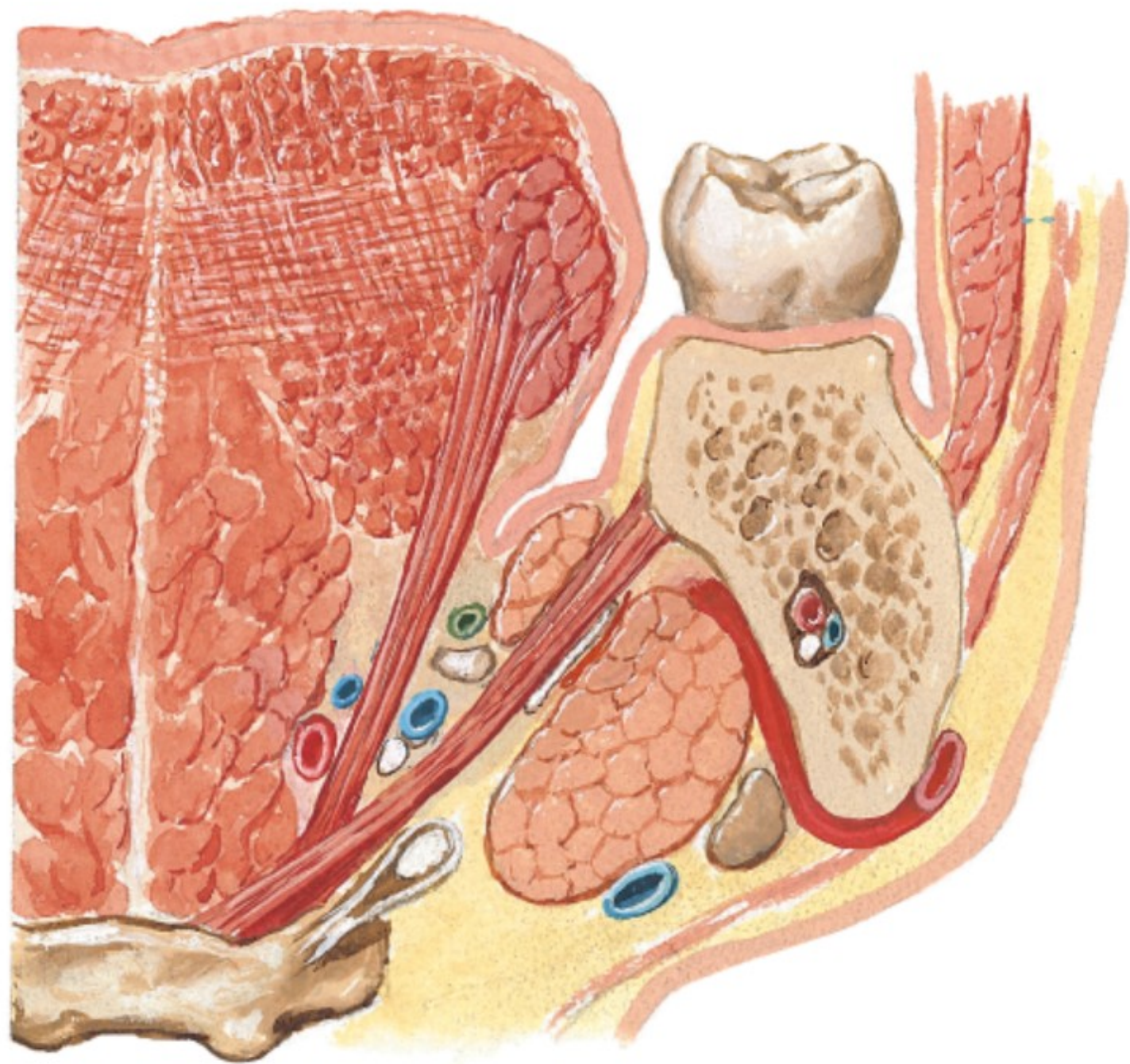
Submandibular Gland



2) Deep part:

Between **2 Ms:**
mylohyoid &
hyoglossus *ms.*
between **2**
nerves: lingual *n.*
above &
hypoglossal *n.*
below.





Submandibular Gland

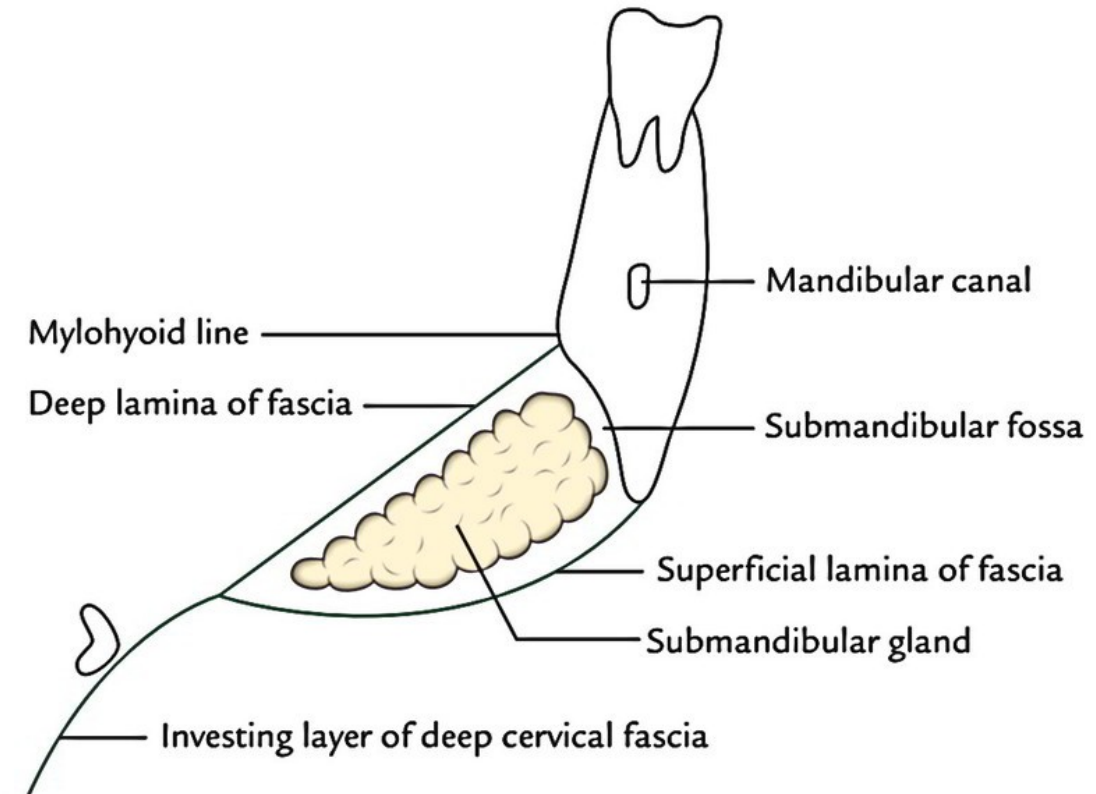


Fascial covering

2 layers of deep cervical fascia:

a) Superficial layer covers the gland inferiorly & attaches to the base of mandible.

b) Deep layer covers the medial surface of the gland & attaches to mylohyoid line of the mandible



Coronal section

Submandibular Gland



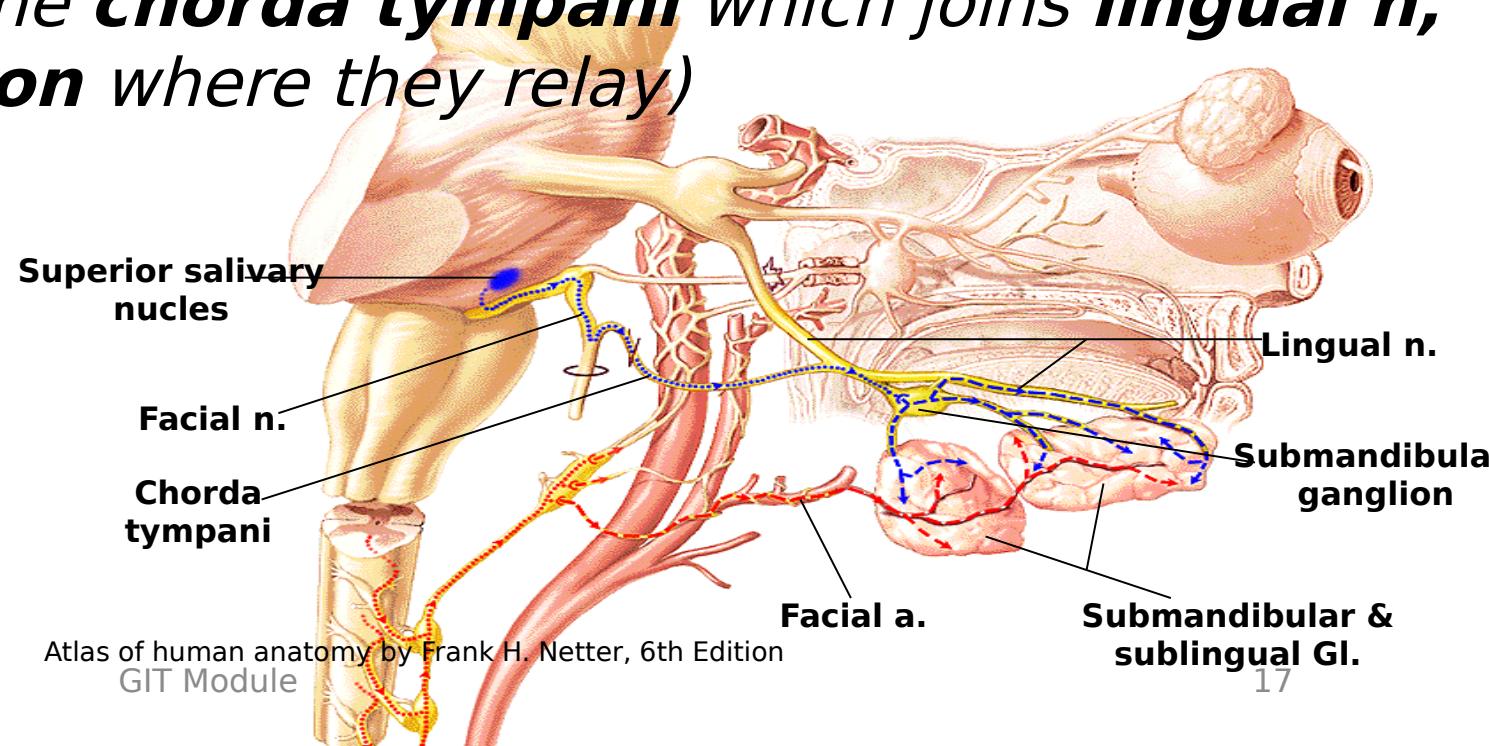
Nerve supply:

- **Sensory:** lingual nerve.
- **Sympathetic:** plexus around facial artery.
- **Parasympathetic:** postganglionic fibers from the submandibular ganglion (*the **preganglionic** fibers originate from **superior salivary nucleus** of **facial n.**, run into the **chorda tympani** which joins **lingual n.**, to the **submandibular ganglion** where they relay*)

Blood supply:

• Facial & lingual vessels

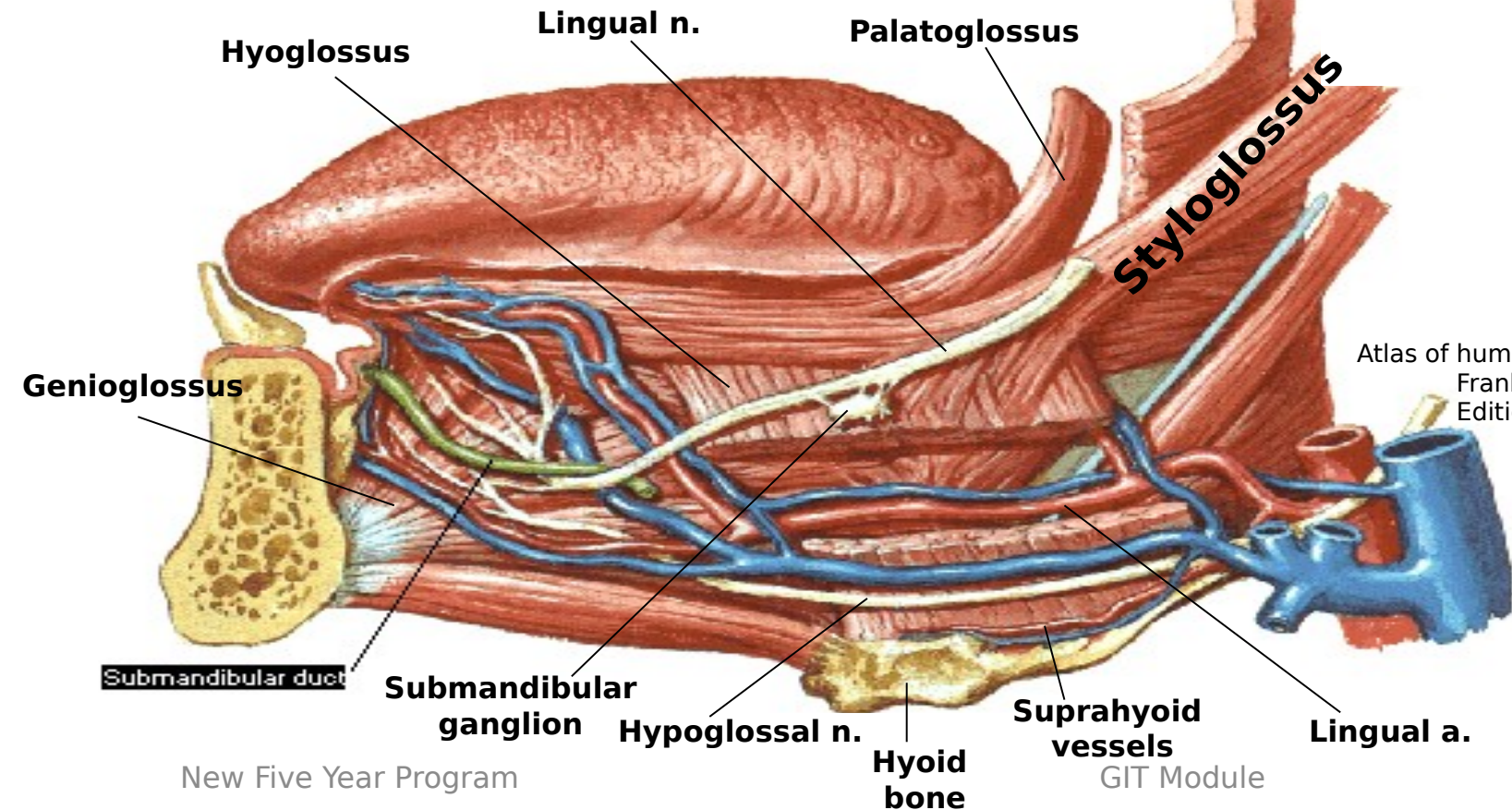
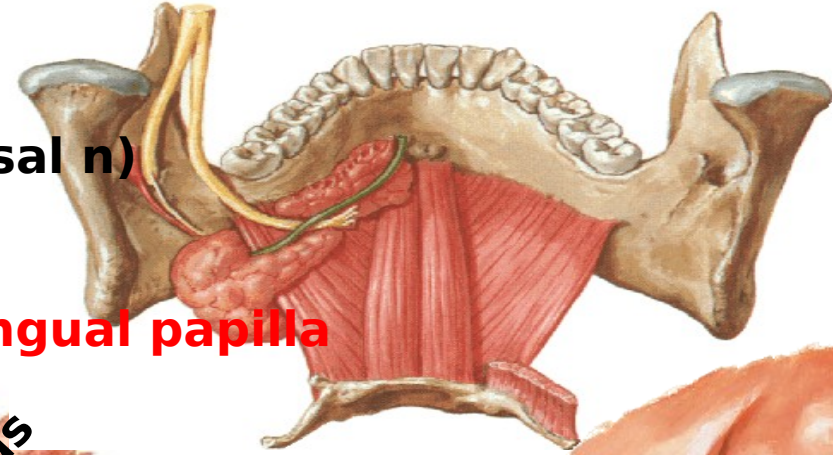
Lymphatic drainage:
Submandibular LN.



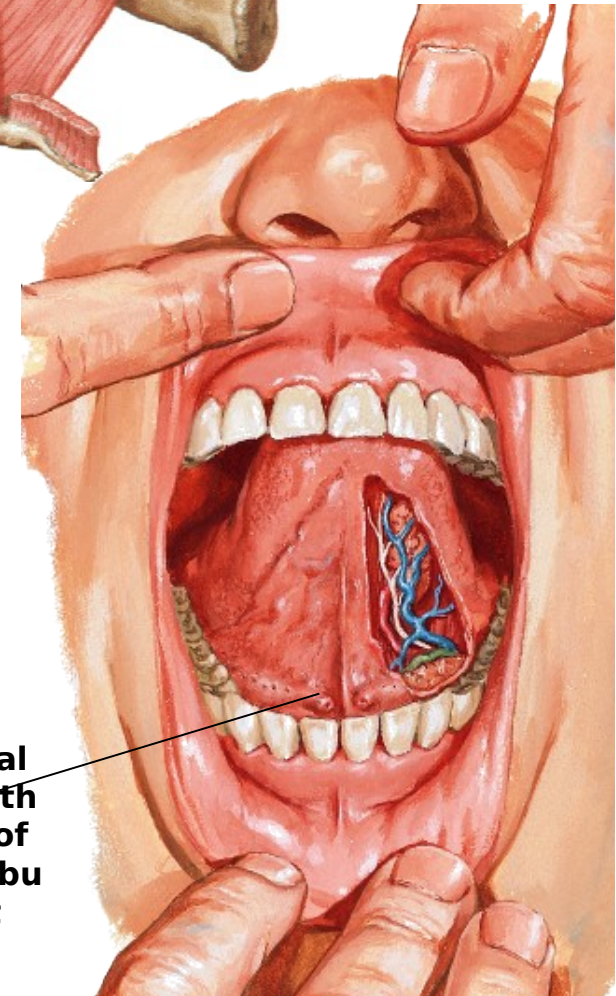
Submandibular Gland



About **5 cm** long.
Passes on **hyoglossus** (between lingual & hypoglossal n)
lingual n. hooks around it from lat. to med.
Runs between genioglossus & sublingual gland
Opens in the floor of mouth on the summit of **sublingual papilla**



Sublingual papilla with opening of submandibular duct

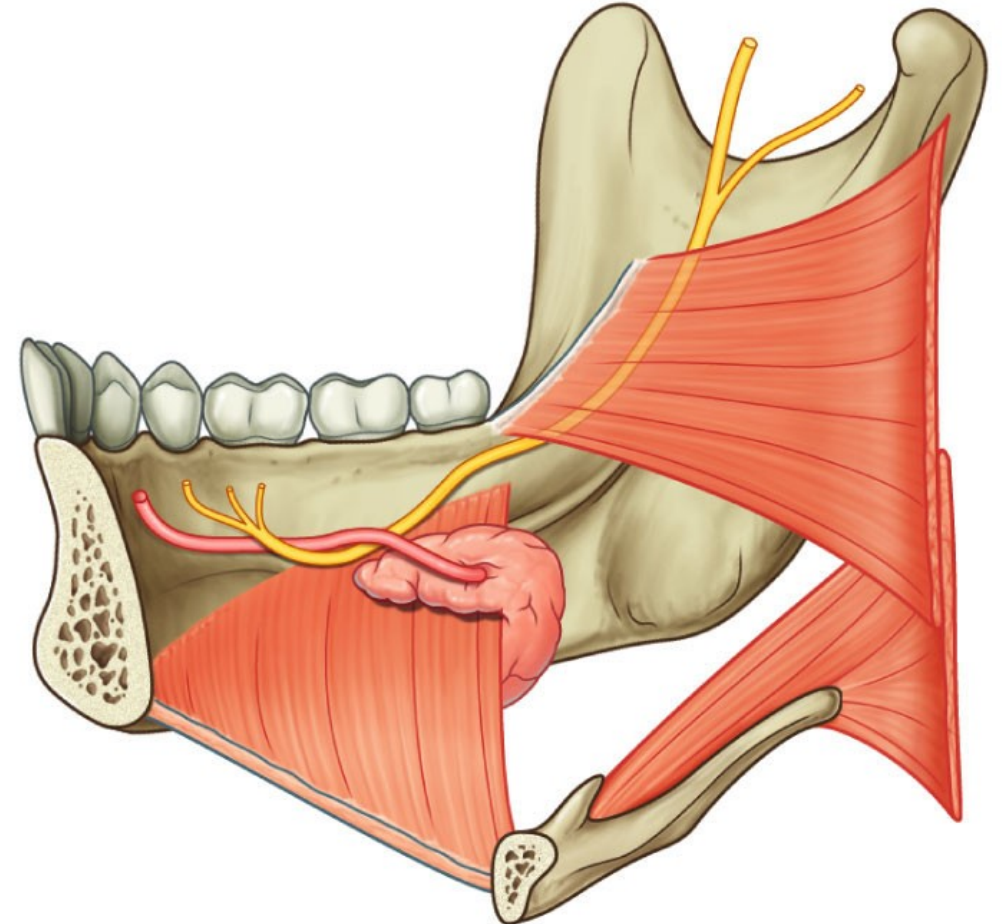


Submandibular Gland



Relation between lingual nerve & Submandibular duct

- 1. Lingual nerve is lateral to the duct.**
- 2. Then inferior.**
- 3. Finally medial.**



Gray's Anatomy for Students-4th Edition



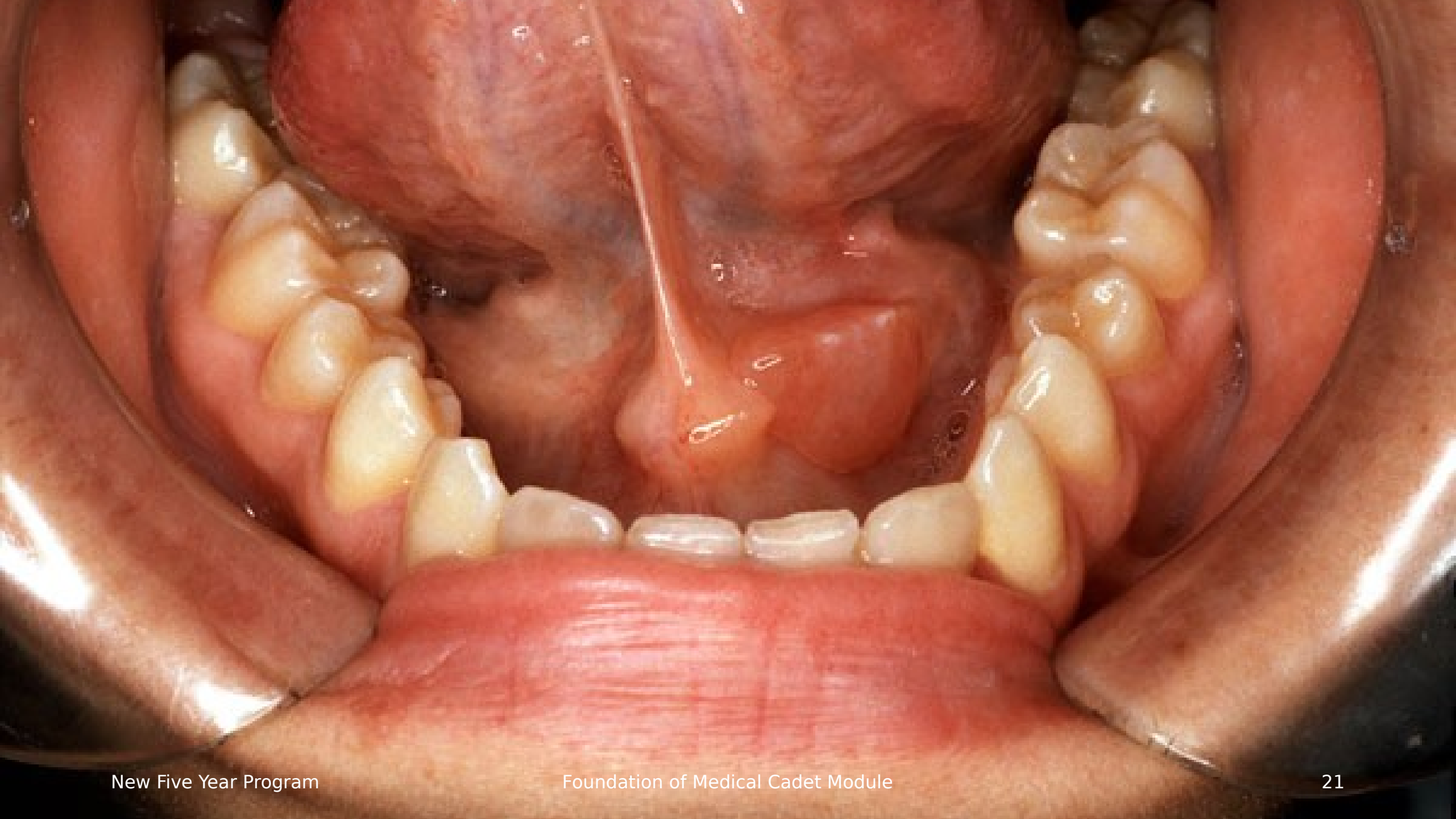
Deep lingual vein

This clinical photograph shows the floor of the mouth. The tongue is retracted, revealing the sublingual gland and its duct. The deep lingual vein is visible as a prominent, bluish-purple structure on the left side of the image. The frenulum is visible as a vertical fold of tissue in the center. The sublingual fold is visible on the right side of the image, indicating the position of the sublingual gland. The submandibular duct opening is visible on the sublingual papilla at the bottom center.

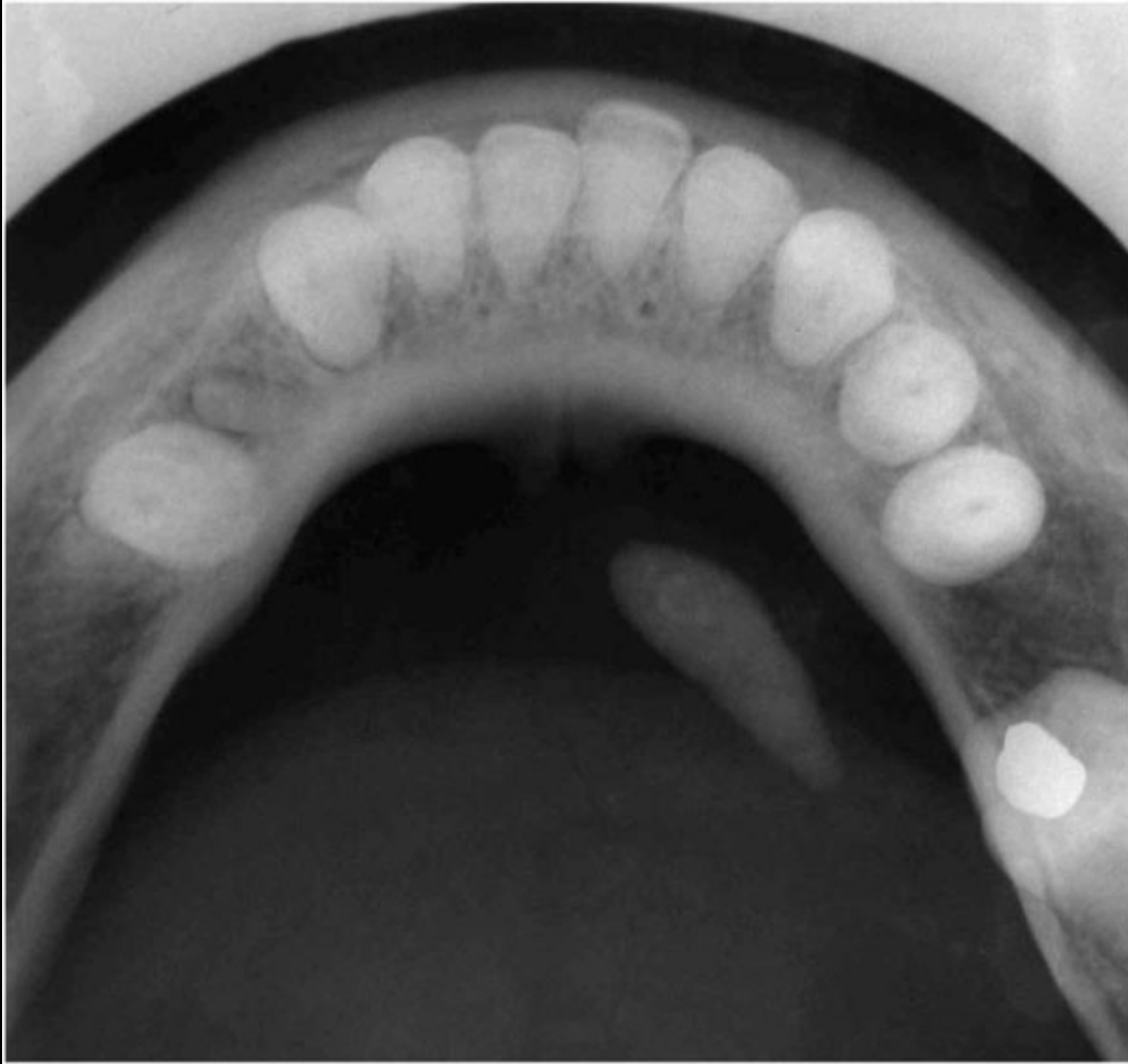
Frenulum

**Submandibular
duct opening on
sublingual papilla**

**Sublingual fold
(indicates position of
sublingual gland)**

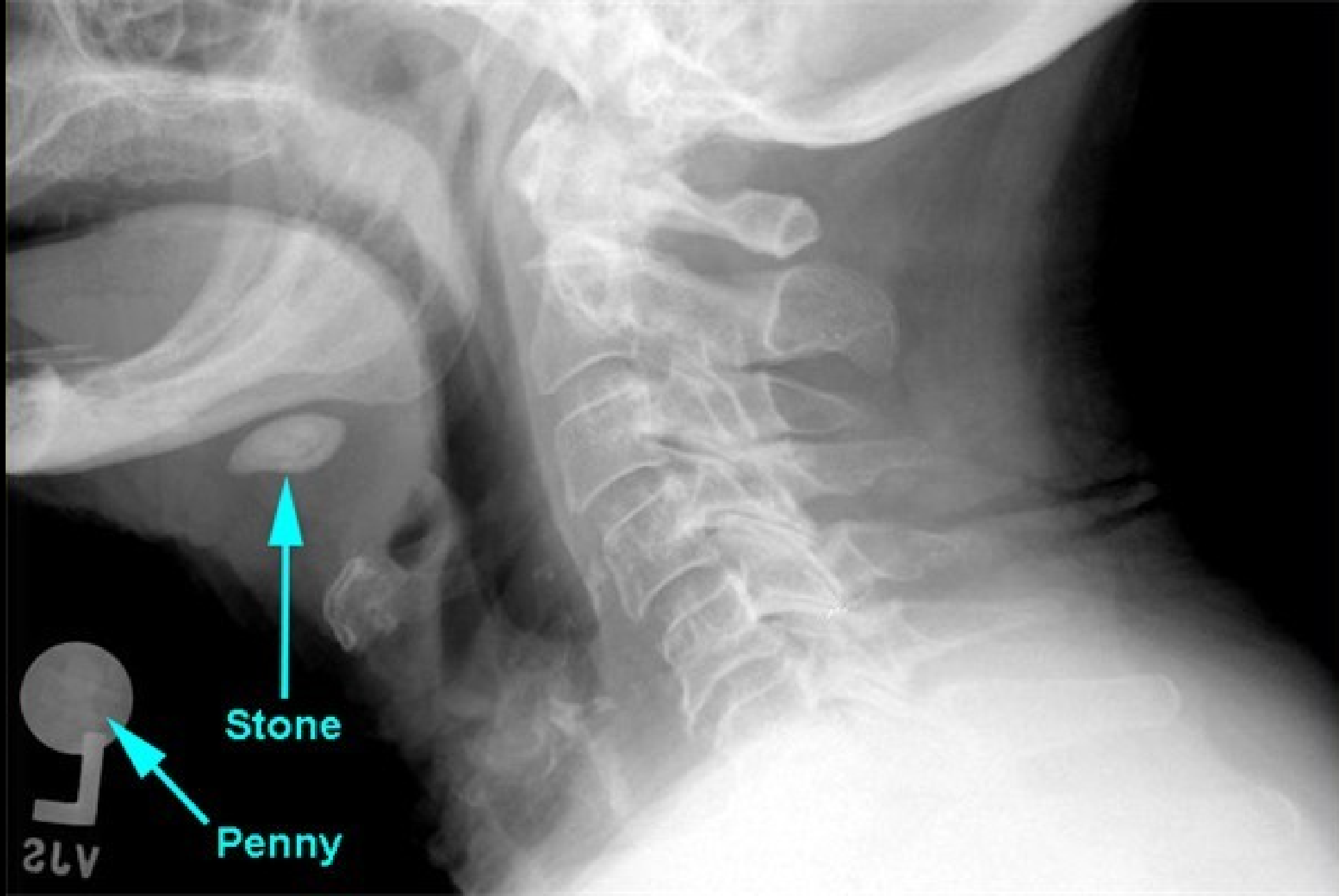






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Lecture Quiz



Which of the following nerves supplies sensory fibres to the submandibular gland?

- a) Auriculotemporal nerve
- b) Lingual nerve
- c) Chorda tympani
- d) Inf alveolar nerve

Sublingual Gland



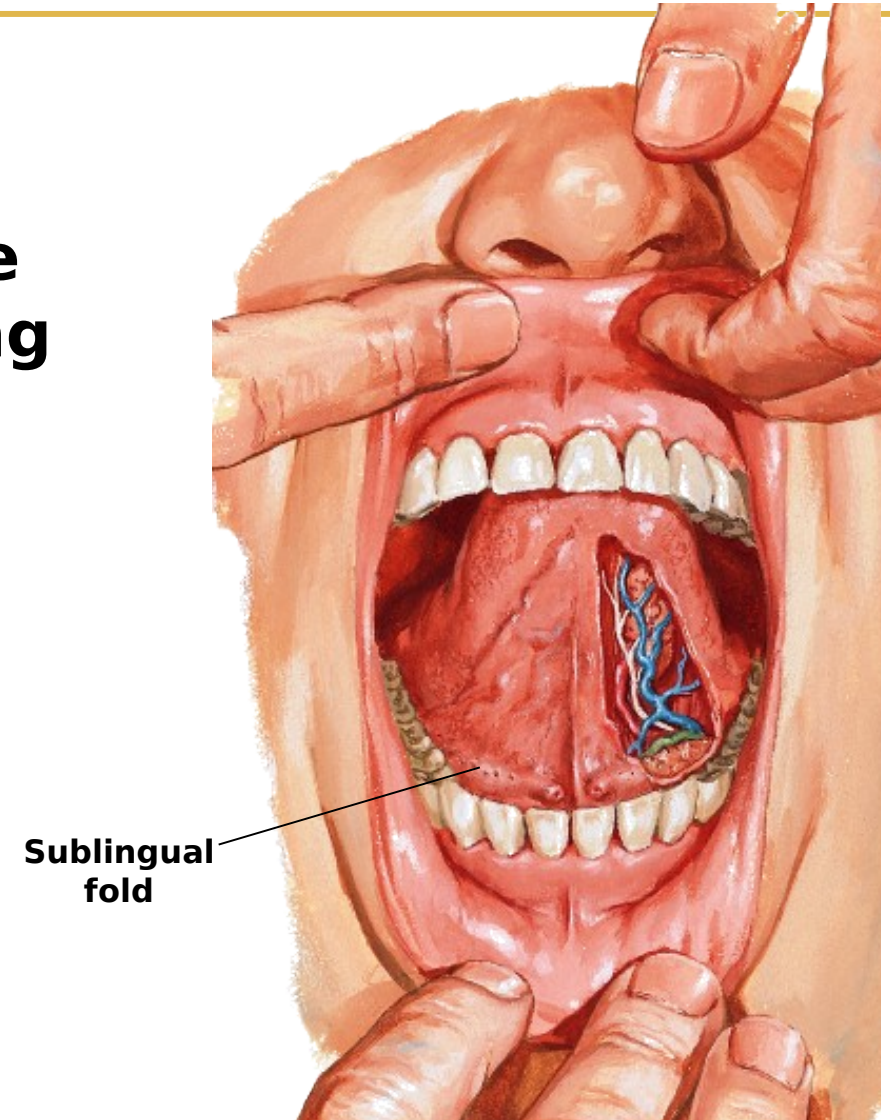
- **Position:**

Lodged in **sublingual fossa** of mandible below mucosa of floor of mouth forming **sublingual fold**.

- **Size:** is the smallest salivary gland.

- **Sublingual ducts:**

8-20 small ducts that open separately on summit of **sublingual fold** in the floor of mouth



Sublingual Gland

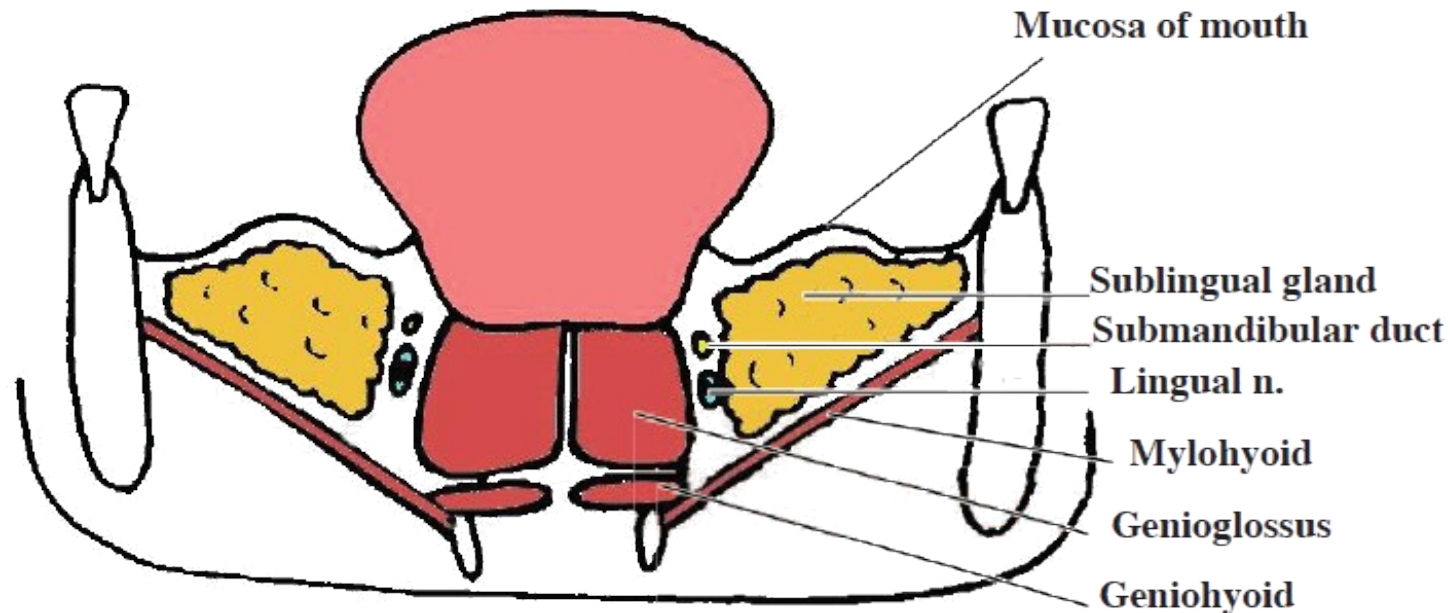
- **Relations**

Med: genioglossus, submandibular duct, lingual n.

Lat: sublingual fossa

Sup: mucosa of the floor of the mouth

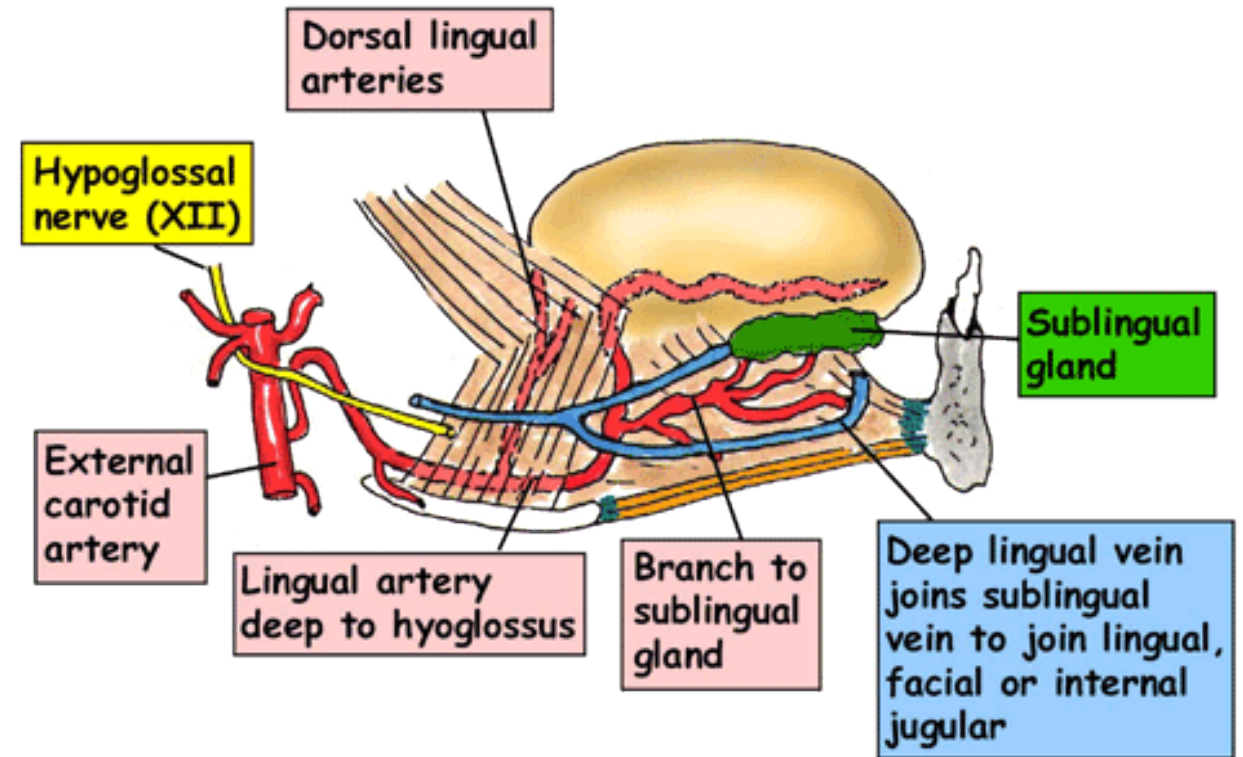
Inf: mylohyoid m.



Sublingual Gland

- **Blood supply:**
Sublingual branches of lingual artery + submental branches of facial *artery*

- **Nerve supply:**
As submandibular gland



<https://www.google.com/url?sa=i&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjcsSnxILmAhU88uAKHX0qBZAQjB16BAgBEAM&url=https%3A%2F%2Fwww.memorangapp.com%2Fflashcards%2F248084%2FBlock%2B3%2BAnatomy%2B-%2BAnterior%2BTriangle%2F&psig=AOvVaw0oj7uDYDWQjgYvrdsTXMmu&ust=1574674084816227>

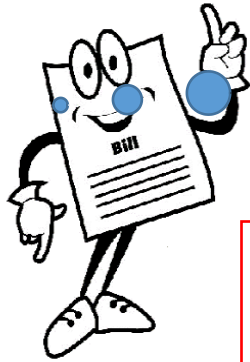
Lecture Quiz



- ***Sublingual ducts opens into:***

- a) Frenulum of tongue
- b) Sublingual fold
- c) Sublingual papilla
- d) Vestibule of mouth

Lecture Summary



Submandibular & Sublingual Glands

1. Describe the shape, , position, surfaces, relations of submandibular salivary gland
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3. Discuss nerve and blood supply of the submandibular gland
4. Describe position , relations , ducts , nerve and blood supply of sublingual salivary gland

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Go to Medicine :D

Suggested Readings



- 1. Gray's Anatomy for Students-4th Edition**
- 2. Atlas of human anatomy by Frank H. Netter,
6th Edition**
- 3. Clinical Anatomy for Medical Students,
Richard S. Snell**

- For further inquiries **PLZ** feel free to contact at any time through email

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Thank You